

INTRODUCTION

The U.S. Environmental Protection Agency (EPA) is pleased to issue the Healthy Buildings, Healthy People (HBHP) report, a vision for indoor environmental quality in the 21st Century. The importance of the indoor environment to human health has been highlighted in numerous environmental risk reports, including the 1997 report of the Presidential and Congressional Commission on Risk Assessment and Risk Management. On average, we spend about 90 percent of our time indoors, where pollutant levels are often higher than those outside. Indoor pollution is estimated to cause thousands of cancer deaths and hundreds of thousands of respiratory health problems each year. In addition, hundreds of thousands of children have experienced elevated blood lead levels resulting from their exposure to indoor pollutants.

The report challenges all of us to work together to improve the quality of our environment. It can also serve as the basis for discussion and education among professionals in public policy, health, building sciences, product manufacturing, and environmental research. The report is also a blueprint for channeling available resources. Already, EPA has undertaken program initiatives focusing on childhood asthma, characterizing the effect of building and consumer products on the indoor environment, increasing the demand for cleaner indoor products for use in schools, creating standards of care for existing buildings, and designing guidance for new schools. EPA is also integrating good indoor environmental quality (IEQ) concepts into the Energy Star[®] label program for commercial office buildings. Moreover, other current federal programs, while not direct outgrowths of the HBHP effort, are complementary of it. For example, at the Department of Housing and Urban Development (HUD), the Healthy Homes project has identified moisture and molds as a priority to be addressed in its grants process, and the Healthy People 2010 effort at the Department of Health and Human Services (DHHS) contains several goals relating to IEQ progress in existing buildings. We challenge others, including government, tribes, the health community, academia, non-profit organizations, and industry, to embrace the HBHP goals and work together to invest in the actions outlined in the report. In this way, we can begin to make progress towards realizing the vision of HBHP.

The HBHP report is the outcome of a cross-Agency effort to define a strategic vision and potential actions for improving the quality of our indoor environment and was jointly led by the Office of Air and Radiation (OAR) and the Office of Prevention, Pesticides, and Toxic Substances (OPPTS) with substantial involvement from the Office of Research and Development (ORD). As part of this effort, we sought the advice of many outside experts and visionaries.

During this collaborative process, we learned a great deal from our stakeholders. For example, we need to further understand indoor sources of pollutants and their health effects, integrate building design and maintenance, encourage federal buildings to be “model” indoor environments, support the development of new product technologies, and educate the public. Also, we need to work closely with other federal agencies; state, local and tribal governments; health and community organizations; and industry and other private groups to improve the Nation’s health.

Based on stakeholder and cross-Agency input, EPA issued a draft report in March 2000 containing a vision, goals, guiding principles, and potential actions to improve human health indoors. The draft report was available on EPA’s web site and was sent to over 300 stakeholders representing the public, environmental and health interests, academia, federal agencies, state and local governments, tribes, non-profit organizations, trade associations, and industry. The public was asked to submit comments by May 31, 2000. This comment period was extended to June 30, 2000 at the request of several commentors. We received comments from over 40 individuals and organizations; many of them have been incorporated into the final report, or have been addressed in Appendix C. Interestingly, this effort has attracted attention in Canada where a parallel effort, Healthy Indoors: Achieving Healthy Indoor Environments in Canada (www.HealthyIndoors.com) is using our draft report as a centerpiece in its stakeholder dialogues.

The draft HBHP report was positively received, and many indicated that the document was a significant step in addressing an important, but often overlooked, public health issue. Although there were a number of specific suggestions for changes to the draft report, nearly all commentors felt the report was comprehensive, and that the vision and goals captured the central themes and needs of the issue. Several indicated that the potential actions contained in the draft report were strategic, and that, when implemented, would be helpful in addressing the quality of our indoor environment. A summary of the comments is contained in Appendix C.

While many of the comments we received were incorporated, the basic structure of the draft report has been maintained in the final HBHP report. Chapter 1 focuses on why human health indoors deserves the scrutiny, concern, and action of policy makers. These reasons are primarily health-related. Health risks associated with indoor environments include asthma, cancer, and reproductive and developmental effects. However, significant gaps still exist in the current state of knowledge about indoor environmental risks and exposures. We also believe that

a particular emphasis must be placed on children's health. Chapter 2 presents a vision statement and outlines goals, broad strategies, and guiding principles to achieve success in every sector of our society over the next 25 to 50 years. In short, our objective is to realize major human health gains over the next 50 years by upgrading indoor environments. Five goals or strategies have been set to accomplish this objective: (1) achieve major health gains and improve professional education; (2) foster a revolution in the design of new and renovated buildings; (3) stimulate nationwide action to enhance health in existing structures; (4) create and use innovative products, materials, and technologies; and (5) promote health-conscious individual behavior and consumer awareness. In addition to providing information on actions and strategies that can be taken to protect people indoors, EPA's vision acknowledges the important role played by individuals in protecting their own health and the health of those around them. Chapter 3 lays out potential actions that EPA or others may pursue.

Appendix A provides an overview of current indoor environmental program priorities in various offices within EPA. Appendix B examines the roles of the Agency's partners in indoor environmental protection, including federal, state, local, and tribal organizations, as well as stakeholders in the private sector. Appendix C provides a summary of the comments on the draft report and how the comments can be accessed through our docket.

ACRONYMS

ACGIH	American Conference of Governmental Industrial Hygienists
AIA	American Institute of Architects
AIDS	Acquired Immune Deficiency Syndrome
AMCL	Alternative Maximum Contaminant Level
ANSI	American National Standards Institute
ASHRAE	American Society of Heating, Refrigerating, and Air-Conditioning Engineers
ASTHO	Association of State and Territorial Health Officials
ASTM	American Society for Testing and Materials
ATSDR	Agency for Toxic Substances and Disease Registry
BEIR	National Academy of Sciences' Committee on the Biological Effects of Ionizing Radiation
CDC	Centers for Disease Control and Prevention
CDN	Clinical Directors Network
CDPHE	Colorado Department of Public Health and the Environment
CERCLA	Comprehensive Environmental Restoration Compensation and Liability Act
CLI	Consumer Labeling Initiative
CO	Carbon Monoxide
CPSC	U.S. Consumer Product Safety Commission
DHHS	U.S. Department of Health and Human Services
DINP	Diisononyl Phthalate
DOC	U.S. Department of Commerce
DOE	U.S. Department of Energy
DOL	U.S. Department of Labor
ECOS	Environmental Council of the States
EPA	U.S. Environmental Protection Agency
ETS	Environmental Tobacco Smoke
ETV	Environmental Technology Verification
FCIC	Federal Consumer Information Center
FHA	Federal Housing Administration
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
GSA	General Services Administration
HBHP	Healthy Buildings, Healthy People
HMOs	Health Maintenance Organizations
HUD	U.S. Department of Housing and Urban Development
HVAC	Heating, Ventilating, and Air-Conditioning
IAQ	Indoor Air Quality
IEQ	Indoor Environmental Quality
IQ	Intelligence Quotient
IUR	TSCA Inventory Update Rule
MCL	Maximum Contaminant Level

MHE	Master Home Environmentalist
NAHB	National Association of Home Builders
NAHB-RC	National Association of Home Builders-Research Center
NAS	National Academy of Sciences
NCEA	EPA National Center for Environmental Assessment
NCI	National Cancer Institute
NCSL	National Conference of State Legislatures
NEHA	National Environmental Health Association
NERL	EPA National Exposure Research Laboratory
NGA	National Governors Association
NH COSH	New Hampshire Coalition for Occupational Safety and Health
NHEERL	EPA National Health and Environmental Effects Research Laboratory
NIH	National Institutes of Health
NIOSH	National Institute for Occupational Safety and Health
NIST	National Institute of Standards and Technology
NRMRL	EPA National Risk Management Research Laboratory
OAR	EPA Office of Air and Radiation
OARM	EPA Office of Administration and Resources Management
OCHP	EPA Office of Children's Health Protection
OECA	EPA Office of Enforcement and Compliance Assurance
OEJ	EPA Office of Environmental Justice
OGWDW	EPA Office of Ground Water and Drinking Water
OPEI	EPA Office of Policy, Economics, and Innovation
OPPTS	EPA Office of Prevention, Pesticides, and Toxic Substances
ORD	EPA Office of Research and Development
OSHA	Occupational Safety and Health Administration
OSHAct	Occupational Safety and Health Act
OSW	EPA Office of Solid Waste
OSWER	EPA Office of Solid Waste and Emergency Response
OW	EPA Office of Water
PBT	Persistent, Bioaccumulative, and Toxic
PESP	Pesticide Environmental Stewardship Program
PHSA	Public Health Services Act
PTI	Public Technology, Inc.
SBS	Sick Building Syndrome
SIDS	Sudden Infant Death Syndrome
TSCA	Toxic Substances Control Act
UL	Underwriters Laboratories
USDA	U.S. Department of Agriculture
VA	Veteran's Administration
VOC	Volatile Organic Compound

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